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CLMPTO

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1. A polypeptide which possesses endo-xylogalacturonase activity.
2. A polypeptide having endo-xylogalacturonase activity which is obtainable from a fungus and possesses endo-xylogalacturonase activity.
3. A polypeptide according to claim 2 wherein said fungus is of the genus *Aspergillus*
4. (Amended) A polypeptide according to [any preceding] claim 1, which comprises the sequence set out in SEQ ID No. 2, or a sequence substantially homologous thereto, or a fragment of either sequence.
5. A polypeptide according to claim 4 wherein the fragment has at least 5 amino acids or the homologous sequence is at least 60% identical to SEQ ID No. 2.
6. A polypeptide according to claim 5 which comprises amino acids 19 to 406 of the amino acid sequence set out in SEQ ID No. 2.
7. (Amended) A polynucleotide encoding a polypeptide according [to any one of the preceding] claim[s] 1.

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8. A polynucleotide comprising:
- (a) the polynucleotide sequence set out in SEQ ID No. 1, or the complement thereof;
 - (b) a polynucleotide sequence capable of hybridising to the nucleotide sequence set out in SEQ ID No. 1, or a fragment thereof;
 - (c) a polynucleotide sequence capable of hybridising to the complement of the polynucleotide sequence set out in SEQ ID No. 1, or a fragment thereof; and/or
 - (d) a polynucleotide sequence which is degenerate as a result of the genetic code to any of the polynucleotides defined in (a), (b) or (c).

9. A polynucleotide according to claim 8 which:

- a. encodes a polypeptide having endo-xylogalacturonase activity, which polynucleotide is:

- (1) the coding sequence of SEQ ID No. 1;
- (2) a sequence which hybridises selectively to the complement of sequence defined in (1); or

10. (Amended) An isolated polynucleotide according to claim 7[, 8 or 9] obtainable from a fungus.

- (3) a sequence that is degenerate as a result of the genetic code with respect to a sequence defined in (1) or (2); or
- b. is a sequence complementary to a polynucleotide defined in (a).

11. A polynucleotide according to claim 10 wherein the fungus is of the genus *Aspergillus*.

12. (Amended) A polynucleotide probe which comprises a fragment of at least 15 nucleotides of a polynucleotide as defined in [any of] claim[s] 7 [to 11].
13. (Amended) a vector comprising a polynucleotide as defined in [any one of] claim[s] 7 [to 12].
14. (Amended) An expression vector comprising a polynucleotide as defined in [any one of] claim[s] 7 [to 11] operably linked to one or more regulatory sequences capable of directing expression of the polynucleotide in a host cell.
15. (Amended) A host cell transformed or transfected with, comprising or incorporating a vector according to [any one] of claim[s] 13 [to 14].
16. (Amended) A host cell comprising or harboring a polynucleotide according to [any one of] claim[s] 7 [to 11] wherein the polynucleotide is heterologous to the genome of the host cell.
17. (Amended) A host cell according to claim 15 [or claim 16] which is a yeast cell.
18. (Amended) A method for producing a polypeptide according to [any one of] claim[s] 1 [to 6] which comprises incubating or culturing a host cell according to [any one of] claim[s] 15 [to 17] under conditions which allow the expression of the polypeptide, and optionally purifying the polypeptide.
19. (Amended) A host cell comprising or expressing a polypeptide according to [any one of] claim[s] 1 [to 6] therein the polypeptide is heterologous to the host cell.
20. (Amended) A composition comprising a polypeptide according to [any one of] claim[s] 1 [to 6].
21. A composition according to claim 20 which further comprises a polypeptide having endo-arabinanase, rhamnogalacturonase or polygalacturonase activity.

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22. (Amended) A method of treating a plant material, the method comprising contacting the plant material with a polypeptide according to [any one of] claim[s] 1 [to 6 or a composition according to claim 20 or claim 21].

23. A method according to claim 22 wherein the treatment comprises degrading or modifying pectin in the plant material.

24. A method according to claim 22 for degrading or modifying plant cell walls.

25. (Amended) A method according to claim 22 [or 23] wherein the treatment comprises endo-type cleaving of xylogalacturonan subunits of a pectin component of the material.

26. (Amended) A method according to [any of] claim[s] 22 [to 24] wherein the material comprises a plant, plant pulp, plant extract or an edible foodstuff or ingredient therefore.

27. A method according to claim 26 wherein the material is fruit or vegetable pulp, juice or extract.

28. (Amended) A processed plant material obtainable by contacting a plant material with a polypeptide according to [any one of] claim[s] 1 [to 6 or a composition according to claims 20 or claim 21, or which results from a method according to any of claim 22 to 26].

29. A processed plant material according to claim 27 which is a fruit or vegetable juice.

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30. (Amended) A method for reducing the viscosity of a plant material, the method comprising contacting the plant material with a polypeptide according to [any one of] claim[s] 1 [to 6 or a composition according to claim 20 or claim 21 in an amount and under conditions effective to degrade pectin contained in the material].

31. (Amended) Use of a polypeptide according to [any one of] claim[s] 1 [to 6 or a composition according to claim 20 or claim 21] in a method of treating plant material.

32. Use according to claim 31 wherein the treatment comprises endo-type cleaving xylogalacturonan substituents of pectin in the plant material.

33. (Amended) Use of a polypeptide according to [any one of] claim[s] 1 [to 6 or a composition according to claim 20 or claim 21] in a method of processing plant pulp, juice or extract which method comprises incubating the pulp, juice or extract with the polypeptide or composition to at least partially degrade pectin.

34. (Amended) An (animal) feed or foodstuff comprising a polypeptide according to [any one of the] claim[s] 1 [to 6].

35. A composition comprising (optionally saponified) gum tragacanth (sGT) treated with a strong acid.

36. An assay for identifying or detecting a polypeptide having pectin degrading activity, the assay comprising:

- a providing, as a substrate for a candidate compound, (optionally saponified) gum tragacanth treated with a strong acid (sGT/TFA); and

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b contacting the sGT/TFA with the candidate compound and detecting whether any reducing carbohydrates are produced.

37. An assay according to claim 35 wherein the amount of reducing carbohydrates is measured and optionally compared to the amount of the carbohydrates produced in a control with the absence of the candidate compound.

38. (Amended) An assay according to claim 35 [or 36] which comprises measuring the amount of Cu(II) reduced to Cu(I) by the carbohydrates, optionally by contact with bicinchoninic acid (BCA) and determining the amount of BCA-Cu (I) complex formed.

Claims 39 – 44 have been added

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39. A method of treating a plant material, the method comprising contacting the plant material with a composition according to claim 20.

40. A processed plant material obtainable by contacting a plant material with a composition according to claim 20.

41. A processed plant material obtainable by contacting a plant material with a composition which results from a method according to any of claim 22.

42. A method for reducing the viscosity of a plant material, the method comprising contacting the plant material with a composition according to claim 20 in an amount and under conditions effective to degrade pectin contained in the material.

43. Use of a composition according to claim 20 in a method of treating plant material.

44. Use of a composition according to claim 20 in a method of processing plant pulp, juice or extract which method comprises incubating the pulp, juice or extract with the polypeptide or composition to at least partially degrade pectin.